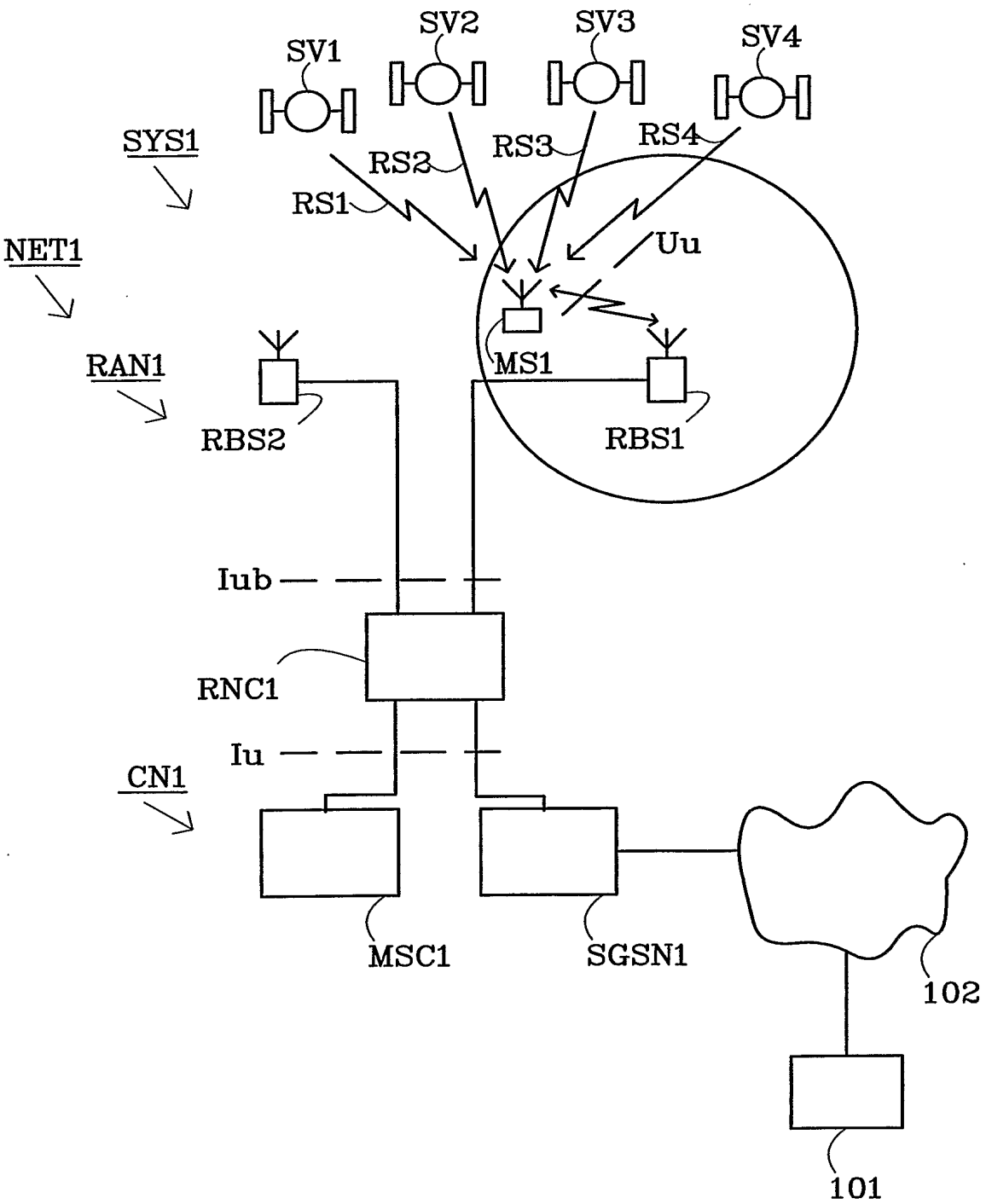

SV1
SV2
SV3
SV4
SYS1
RS1
RS2
RS3
RS4
NET1
Uu
MS1
RAN1
RBS2
RBS1
Iub
RNC1
Iu
CN1
MSC1
SGSN1
102
101

Fig. 1

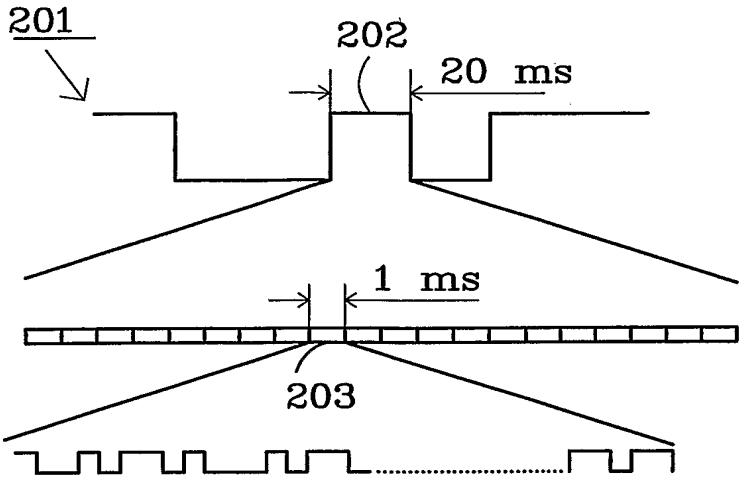

201
202
20 ms
1 ms
203

Fig. 2

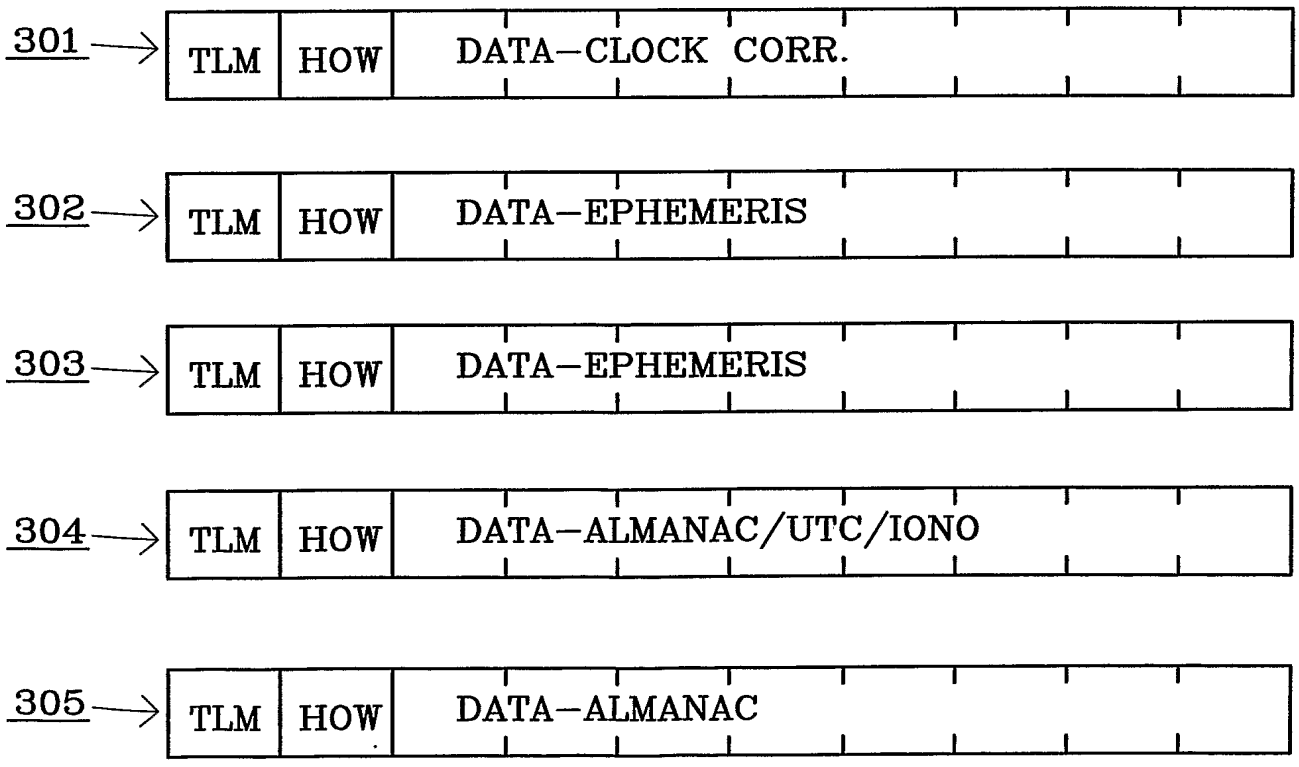
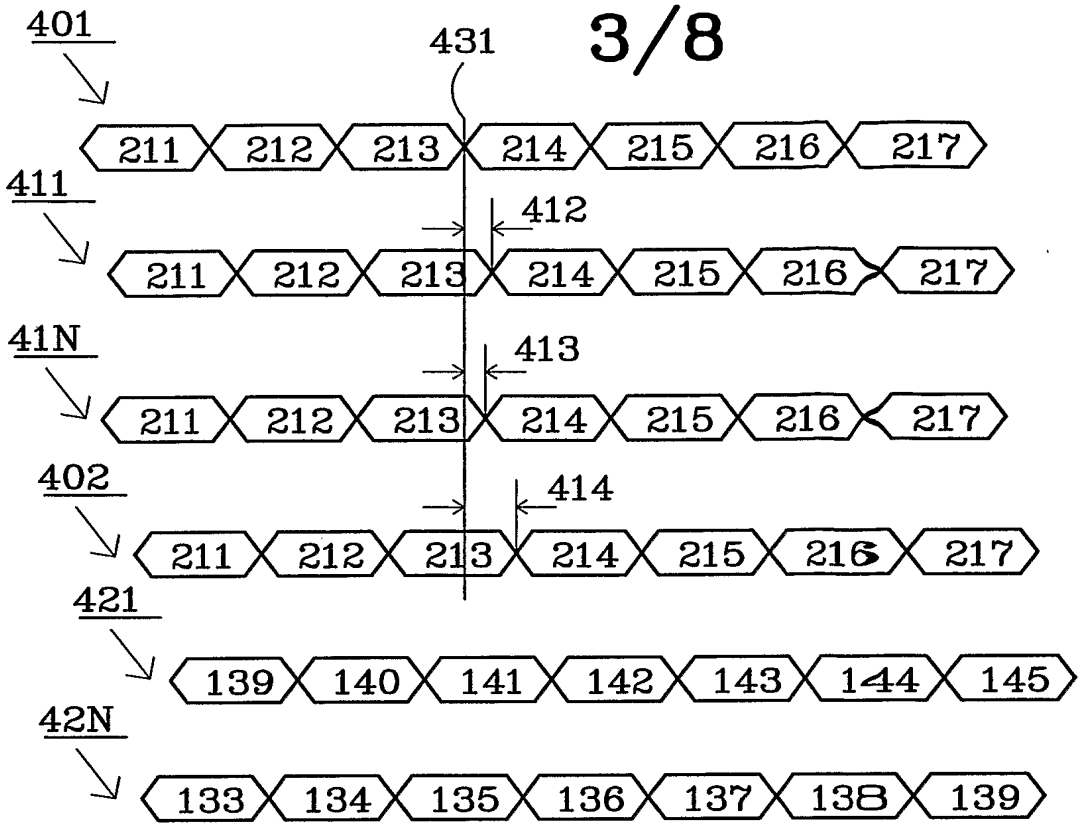

301
TLM
HOW
DATA–CLOCK CORR.
302
TLM
HOW
DATA–EPHEMERIS
303
TLM
HOW
DATA–EPHEMERIS
304
TLM
HOW
DATA–ALMANAC/UTC/IONO
305
TLM
HOW
DATA–ALMANAC

Fig. 3


401
431
211
212
213
214
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216
217
411
412
41N
413
402
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421
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141
142
143
144
145
42N
133
134
135
136
137
138
139

Fig. 4

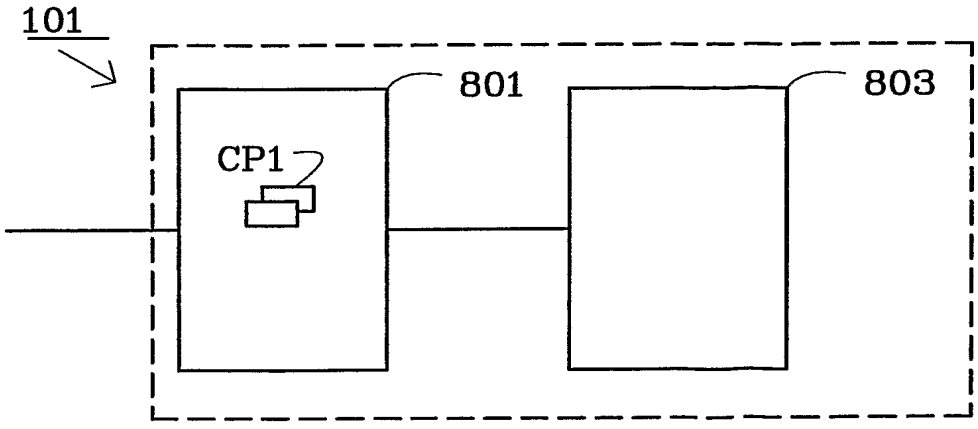

101
801
803
CP1

Fig. 8

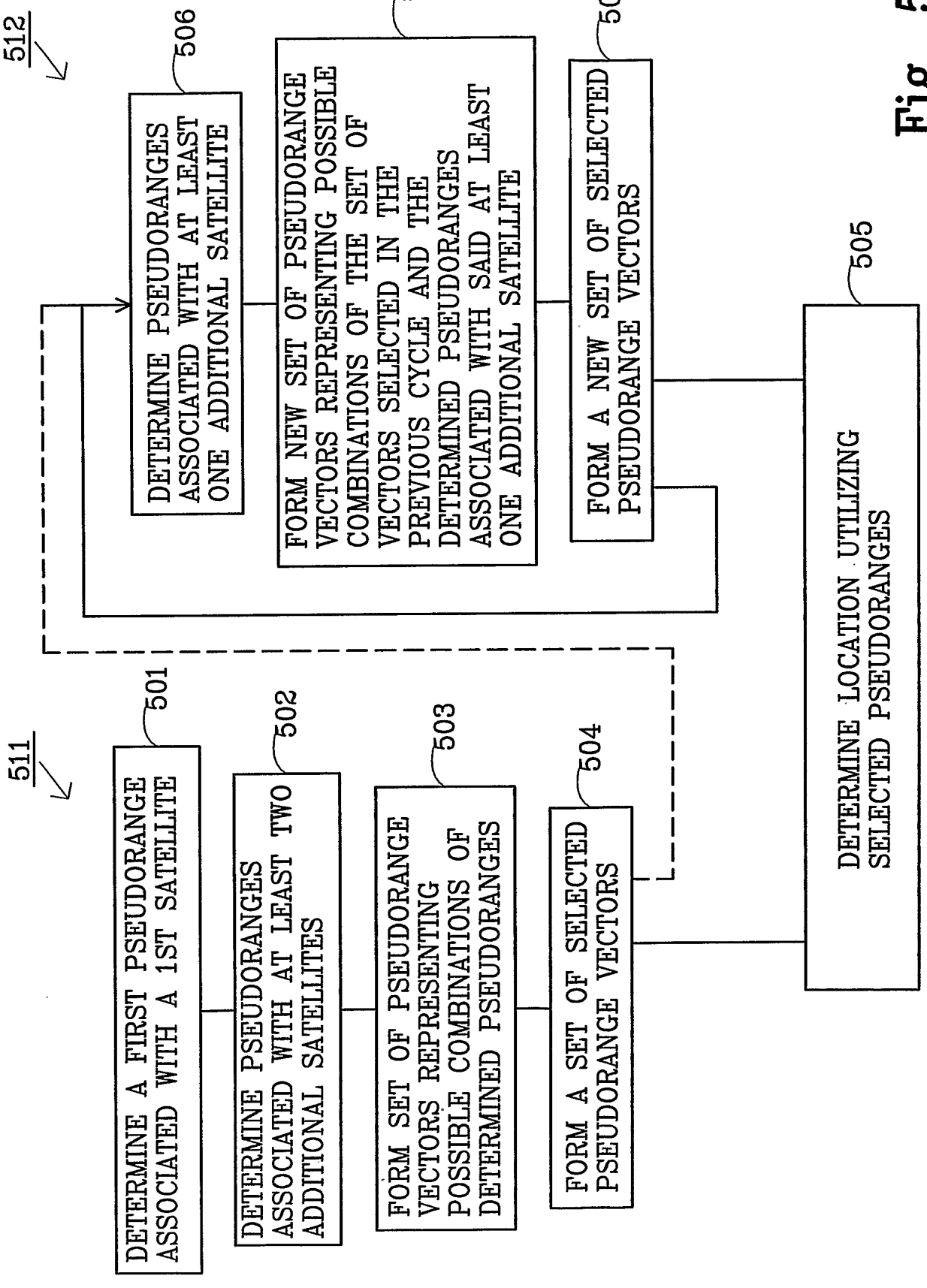
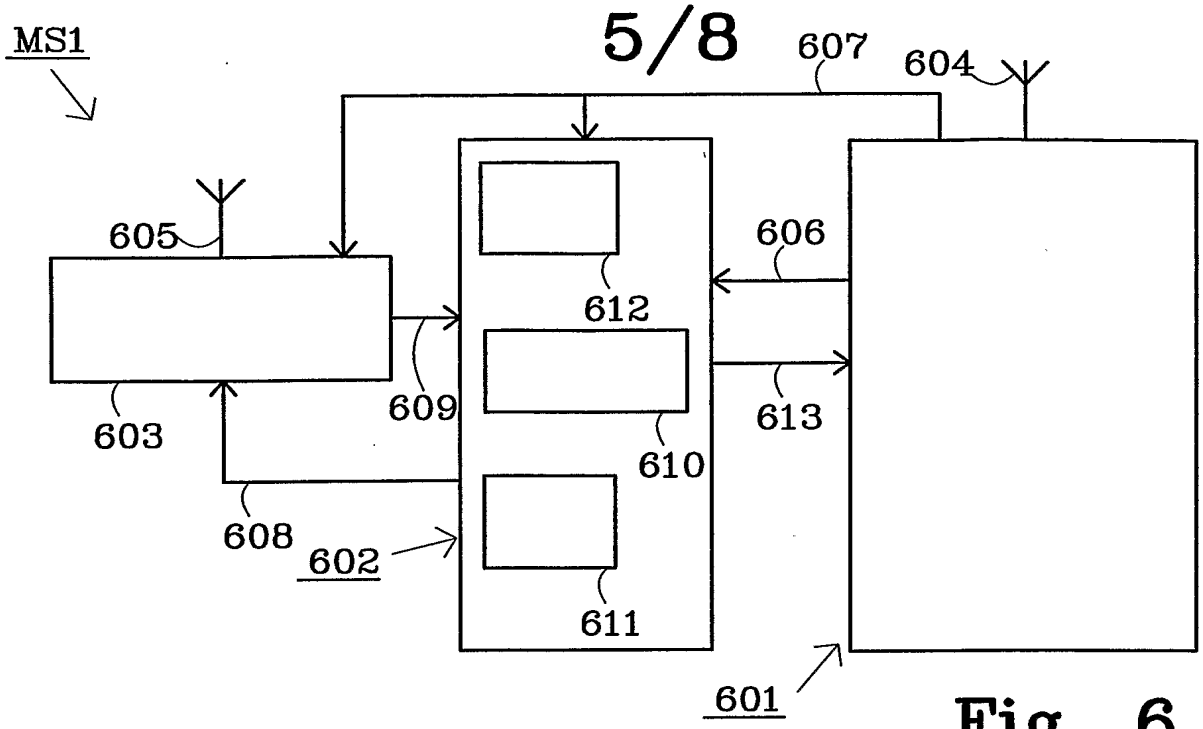

511
DETERMINE A FIRST PSEUDORANGE ASSOCIATED WITH A 1ST SATELLITE
501
DETERMINE PSEUDORANGES ASSOCIATED WITH AT LEAST TWO ADDITIONAL SATELLITES
502
FORM SET OF PSEUDORANGE VECTORS REPRESENTING POSSIBLE COMBINATIONS OF DETERMINED PSEUDORANGES
503
FORM A SET OF SELECTED PSEUDORANGE VECTORS
504
DETERMINE LOCATION UTILIZING SELECTED PSEUDORANGES
505
512
DETERMINE PSEUDORANGES ASSOCIATED WITH AT LEAST ONE ADDITIONAL SATELLITE
506
FORM NEW SET OF PSEUDORANGE VECTORS REPRESENTING POSSIBLE COMBINATIONS OF THE SET OF VECTORS SELECTED IN THE PREVIOUS CYCLE AND THE DETERMINED PSEUDORANGES ASSOCIATED WITH SAID AT LEAST ONE ADDITIONAL SATELLITE
507
FORM A NEW SET OF SELECTED PSEUDORANGE VECTORS
508

Fig. 5


MS1
607
604
605
606
612
603
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610
608
602
611
601

Fig. 6

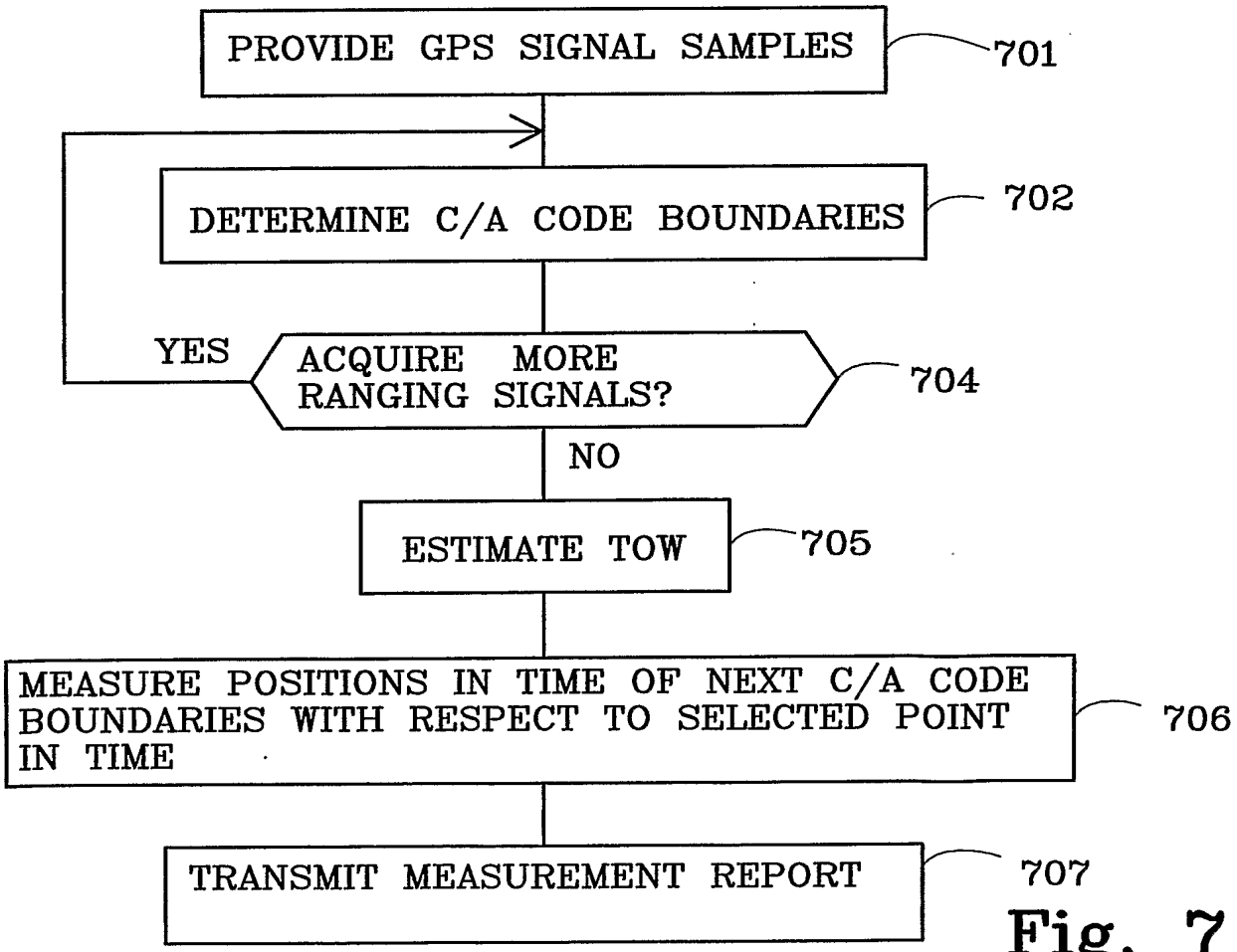
PROVIDE GPS SIGNAL SAMPLES
701
DETERMINE C/A CODE BOUNDARIES
702
YES
ACQUIRE MORE RANGING SIGNALS?
704
NO
ESTIMATE TOW
705
MEASURE POSITIONS IN TIME OF NEXT C/A CODE BOUNDARIES WITH RESPECT TO SELECTED POINT IN TIME
706
TRANSMIT MEASUREMENT REPORT
707

Fig. 7

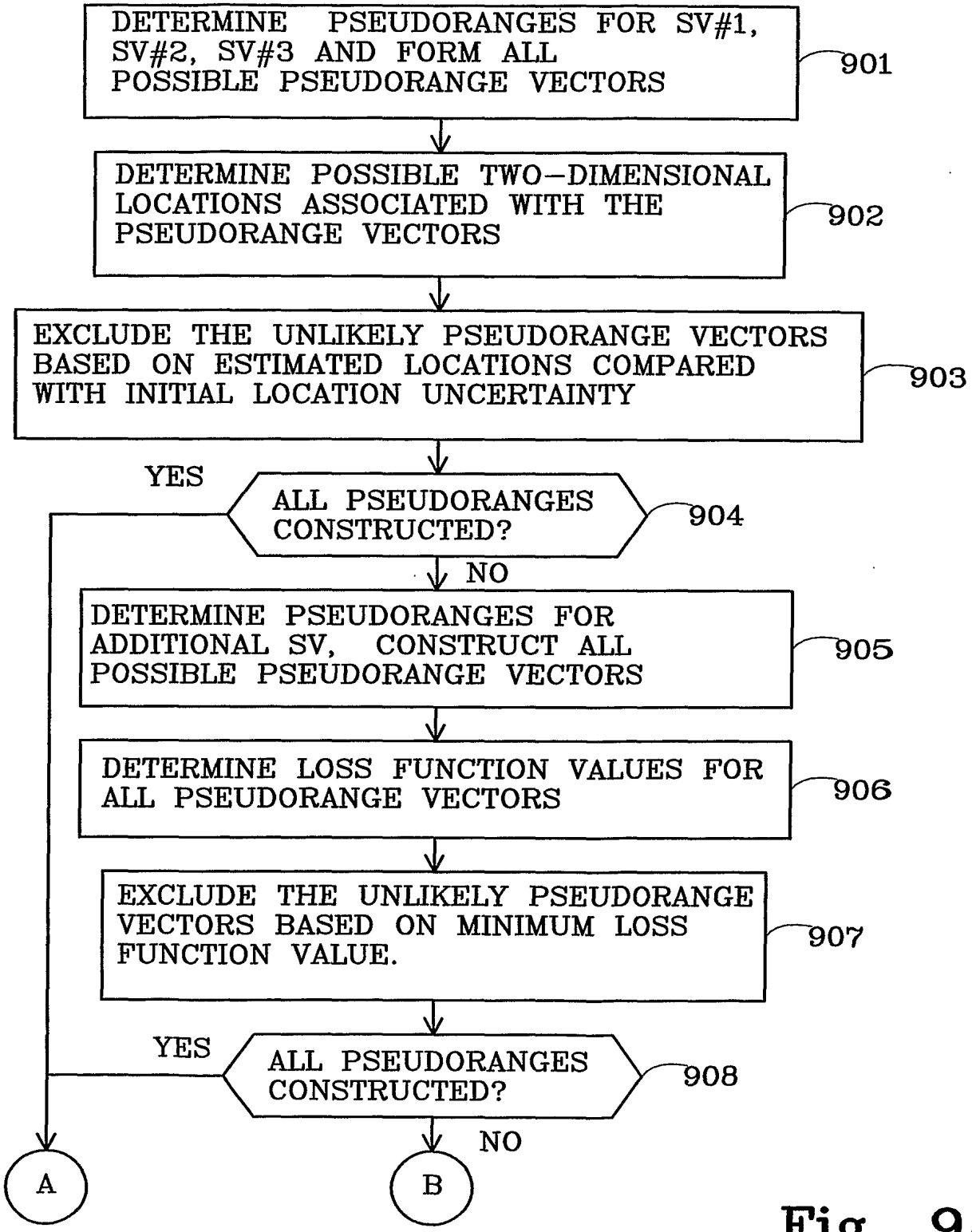
DETERMINE PSEUDORANGES FOR SV#1, SV#2, SV#3 AND FORM ALL POSSIBLE PSEUDORANGE VECTORS
901
DETERMINE POSSIBLE TWO-DIMENSIONAL LOCATIONS ASSOCIATED WITH THE PSEUDORANGE VECTORS
902
EXCLUDE THE UNLIKELY PSEUDORANGE VECTORS BASED ON ESTIMATED LOCATIONS COMPARED WITH INITIAL LOCATION UNCERTAINTY
903
YES
ALL PSEUDORANGES CONSTRUCTED?
904
NO
DETERMINE PSEUDORANGES FOR ADDITIONAL SV, CONSTRUCT ALL POSSIBLE PSEUDORANGE VECTORS
905
DETERMINE LOSS FUNCTION VALUES FOR ALL PSEUDORANGE VECTORS
906
EXCLUDE THE UNLIKELY PSEUDORANGE VECTORS BASED ON MINIMUM LOSS FUNCTION VALUE.
907
YES
ALL PSEUDORANGES CONSTRUCTED?
908
NO
A
B

Fig. 9A

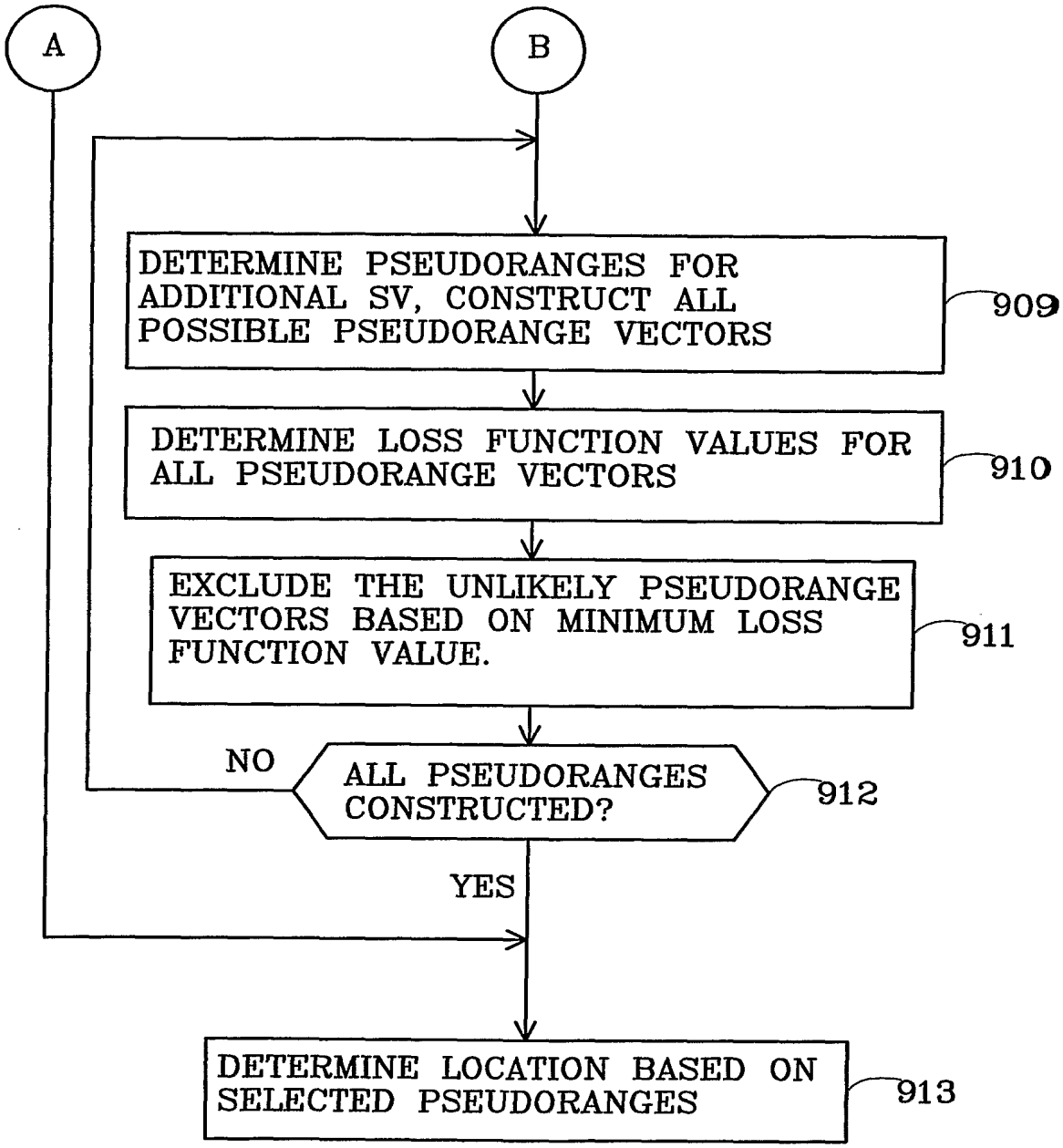
A
B
DETERMINE PSEUDORANGES FOR ADDITIONAL SV, CONSTRUCT ALL POSSIBLE PSEUDORANGE VECTORS
909
DETERMINE LOSS FUNCTION VALUES FOR ALL PSEUDORANGE VECTORS
910
EXCLUDE THE UNLIKELY PSEUDORANGE VECTORS BASED ON MINIMUM LOSS FUNCTION VALUE.
911
NO
ALL PSEUDORANGES CONSTRUCTED?
912
YES
DETERMINE LOCATION BASED ON SELECTED PSEUDORANGES
913

Fig. 9B

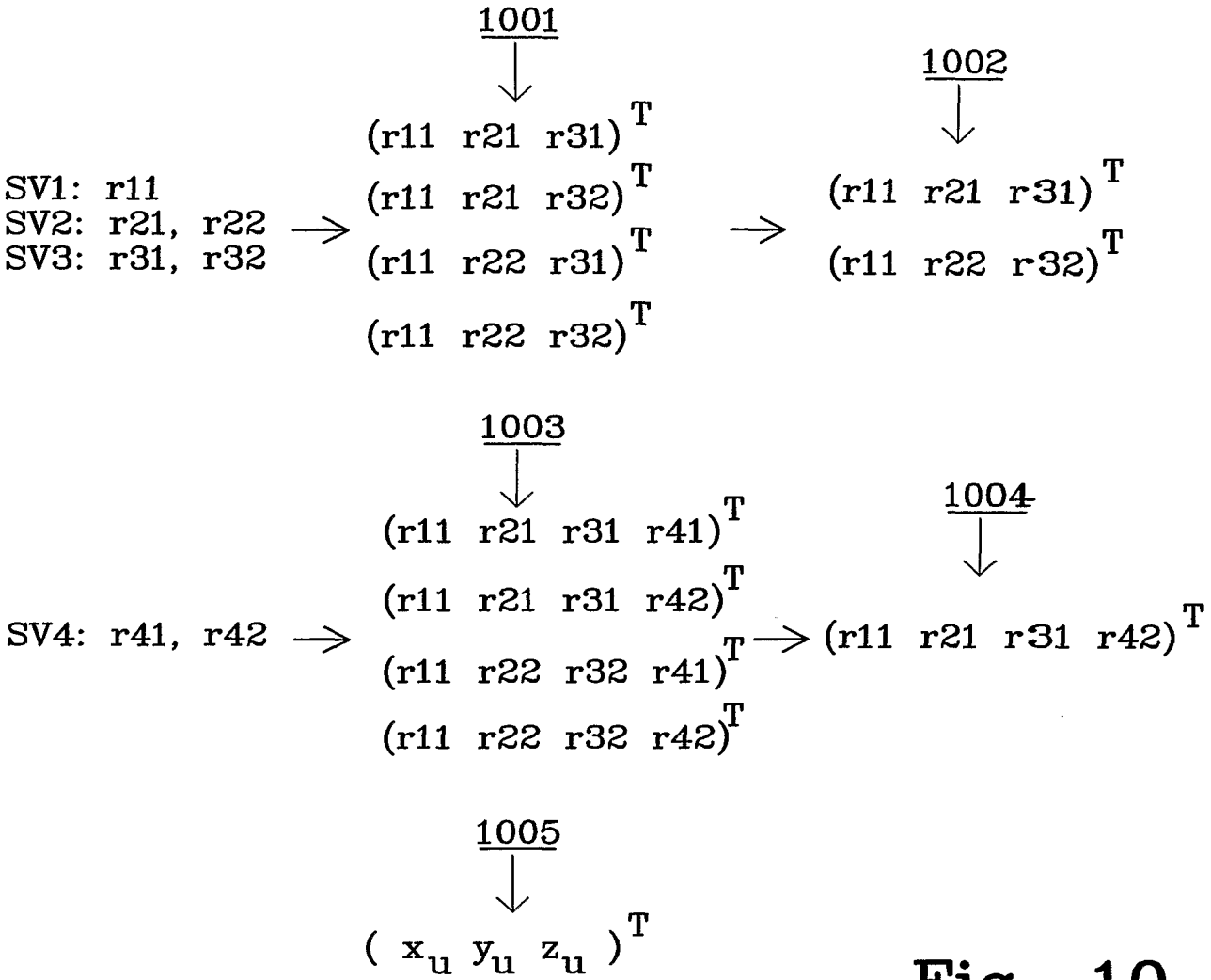
1001
1002
1003
1004
1005
SV1: r11
SV2: r21, r22
SV3: r31, r32
SV4: r41, r42
(r11 r21 r31)T
(r11 r21 r32)T
(r11 r22 r31)T
(r11 r22 r32)T
(r11 r21 r31)T
(r11 r22 r32)T
(r11 r21 r31 r41)T
(r11 r21 r31 r42)T
(r11 r22 r32 r41)T
(r11 r22 r32 r42)T
(r11 r21 r31 r42)T
(xu yu zu)T

Fig. 10

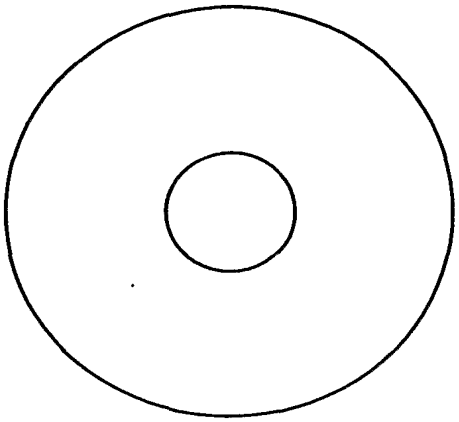

Fig. 11